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ABSTRACT

This report suggests how West Virginians might improve public policy in ways that positively affect all classrooms in the state and describes an approach to improve teacher education. Ten areas of responsibility are discussed: (1) upgrading teacher education programs to make the academic area of study more rigorous and effective; (2) streamlining and simplifying certification standards and the process; (3) examining the range of nontraditional approaches to augment the teaching force including, but not limited to, alternative certification and National Teacher's Exam Testing; (4) establishing a delivery system in higher education for the graduate level in-field salary classification; (5) surveying the need for teachers by identifying possible areas of teacher shortage and oversupply; (6) examining the range of possibilities for using technologies such as distance learning and computers to augment traditional educational delivery systems; (7) examining and developing retraining and professional development activities for experienced teachers; (8) examining the structure and governance of the state education system as related to teacher education; (9) examining the range of approaches to assessment and accountability for teacher preparation programs; and (10) analyzing the fiscal basis for teacher education in West Virginia and establishing the cost of each of the recommendations of the task force. An appendix includes a task force membership list, a list of characteristics of the ideal teacher, and a list of task force projects. A list of 287 "works consulted" concludes the document. (LL)

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FINAL REPORT

of

The Task Force on the Preparation of Teachers in West Virginia

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Foreword

Classroom by classroom -- that is the way improvement of the public schools must proceed. To succeed, public policy should be fashioned with an eye on the blackboard, a nose for the scent of chalkdust and oiled floors, an ear tuned to the cacophony of the playground and to the click of a computer, and the feel of a hand on the shoulder of a youngster. To succeed, public policy should be fashioned with an understanding of what teachers do, what they could do and don't, where they could be more effective if only we gave them a bit more support, and where they fail. To succeed, public policy must encourage the renewal of veteran teachers and must attract able and well-prepared newcomers to our classrooms. The challenge, then, of the Governor's Task Force on the Preparation of Teachers was to propose state level policy that positively affects what happens in classrooms on Coal Mountain in Wyoming County, along the Ohio River at Wheeling, at Roosevelt Junior High School in Charleston, and on the shoulder of the high Alleghenies at much-discussed Pickens School.

Efforts to improve teacher education may provide both direct and indirect ways of improving the public schools. We believe what others have taken as an article of faith: students will learn more from better teachers. Yet, we also believe that the way we organize teacher education itself can have an immediate salutary impact on the schools by recognizing good teaching and learning whether done by college or school people, by focusing the state's best minds on our learning opportunities, and by restoring higher education's commitment to teaching as its ranking responsibility.

Of course, teacher education is but one component of the educational system. Improve it alone and the results are likely to be modest. However, were

we to improve teacher education as we alter other important components of the educational system -- technology, administration, governance structures, public involvement and support, curriculum, and knowledge itself -- then the results could be dramatic and enduring. That is the essence of "restructuring" -- changing rules, roles, resources, responsibilities. Fortuitously, restructuring has begun in West Virginia (notably, in recent landmark statutes such as Senate Bills One and Fourteen and House Bill 420) and provides the context in which this Task Force has worked and the reason for cautious optimism that its recommendations will be heeded and the reform momentum therefore sustained.

Political leaders have been advised, facetiously no doubt, to avoid using any sentence that has both a date and a number in it. West Virginia's Governor and Legislature have wisely and boldly ignored this admonition and established educational goals that the state should strive to achieve by the year 2000.

- *All children entering the first grade will be ready.*
- *All students will have equal education opportunity.*
- *Student performance on national measures will equal or exceed national averages, and the performance of students falling in the lowest quartile will improve by fifty percent.*
- *Ninety percent of ninth graders will graduate from high school.*
- *High school graduates will be fully prepared for college, other post-secondary education, or gainful employment, and the number of high school graduates entering post-secondary education will increase by fifty percent.*
- *All working age adults will be functionally literate.*

Emerging from the discussion is the urgent need to clarify the purposes of

public schools: to assure that students believe, know and can do certain things that this society values. Short and long run achievement is the product and therefore the measure of effectiveness. We can become modestly more efficient (simply a measure of the resources necessary to produce the current level of effectiveness which most agree is inadequate), but increased effectiveness will require either more resources or sharper focus on fewer goals. We must move from consensus on the importance of education to a consensus on which goals are of paramount importance, understanding that every component of the now diffuse curriculum has ardent advocates.

Teacher education, within this context, is expected to demonstrate increasing focus and accountability at a time when the public struggles to find common purposes for schools ...

... schools as anchors for communities swept by "sea" changes?

... schools as levers for social uplift?

... schools as engines pulling the train of economic development?

... schools as providers of jobs in counties with high unemployment?

But we note the rising tide of public interest in *academic achievement* as the *most compelling* of the competing purposes.

Achievement of our educational goals requires nothing less than the creation of a learning society in which families, neighborhoods, towns, the media, schools, churches, voluntary organizations and the state unite in common purpose to help people learn. Repeatedly, our country has demonstrated that foreign enemies, the race to space, or an unresponsive government can galvanize and animate us. Now we shall see if common learning goals,

essential to insure the blessings of liberty, can move the people of this mountain land.

Several general concerns have stimulated the recent educational reform movement across the country: a perceived decline in student achievement reflected in falling test scores; a decline in the nation's global economic competitiveness manifested in such indicators as balance of trade deficits, wholesale foreign acquisition of visible American properties, and the flight of jobs overseas; and the apparent decay of traditional values and institutions such as the family, the community and the church. Each of these problems requires different solutions and suggests different emphases for the public schools.

Although much discussion has centered on the erosion of respect for teachers and their profession, little mention of the attendant denigration of teaching itself has occurred. Teaching is a responsibility that attaches to almost every human role -- parenting, managing, governing, ministering, and healing. When parents either refuse or do not know how to teach their children, when managers fail to teach the lessons of quality production, when physicians fail to teach the benefits of preventive medicine, then we should not be surprised that our society is threatened. We understand that a society that neglects professional teachers is likely to minimize the responsibility of teaching inherent in other roles. Fortunately, an attitude change is afoot in some professions. For example, business schools are again emphasizing course-work in production and operations, teaching managers to teach workers how to produce quality products. And, we are even unapologetic about parenting education; notably, newspapers run columns that attempt to teach parents how to teach their children to read.

What is needed then is a fundamental societal affirmation of teaching as the foundation of our civilization and the means for transmitting culture, values, ideas and skill. Such a commitment is not to be mistaken for the more narrow but important need to renew our commitment to the teaching profession. The latter will follow the former as the night the day: professional teachers will be honored by a society in which each member aspires to perform more effectively the various teaching roles that attend living in a learning community. The professionals can teach us to teach!

Permeating the discussions of the Task Force were beliefs about characteristics of the ideal teacher. What should the "products" of West Virginia's teacher educations programs look like? How should they behave? Although our list appears in an appendix, the nature of the list deserves comment. Public expectations of the professional teacher are high and exacting, perhaps more demanding than those we hold for any other profession. The expectations often conflict: What is more important, concern for students or concern for the subject? Each academic discipline has its rules and methods, yet we expect teachers to be creative and not rule driven.

Our metaphors for good teachers often reveal our scattered expectations. We want the teacher to be manager, coach, parent, moral leader, scholar, story teller, ad infinitum. Rarely do we pause to consider the implications of any one of these descriptors. What if the teacher behaved like a manager? Would she have a "span of control" of only five to seven people reporting to her in the chain of command? Would she be an autocratic or a democratic manager? Would we call her a "bleeding heart" because she was altruistic and caring?

Clearly, these contrasting characteristics call for a rare, balanced blend of

traits that we ought to celebrate when we find. Creating the teacher in whom the elements are so mixed is an extraordinarily complex, difficult job. Our purpose in this report is to suggest how West Virginians might improve modestly on a model they have been developing for more than a century.

Jerry L. Beasley
Task Force Chair

Responsibility One: Upgrading Teacher Education Programs to Make the Academic Area of Study More Rigorous and Effective.

In recent years, policy makers and educators in West Virginia have been responsive to public concerns regarding the quality of our schools and teacher education. Responding to a crescendo of sentiment calling for improvement and to recommendations in a series of studies and reports, they have implemented a number of reform measures. A partial list follows:

Admission standards have been raised.

Entry to baccalaureate degree programs in West Virginia public institutions requires high school course work that includes at least four years of English, algebra and a sequel mathematics course, two laboratory sciences and social studies. Approximately thirty-five percent of the state's college-going population do not meet these standards and should they choose post-secondary studies will be required to attend community colleges.

Admission standards to teacher education programs have been raised.

Future teachers usually are admitted to teacher education programs sometime during their sophomore or junior years. In accord with national trends, West Virginia teacher education programs now require applicants to have a 2.5 grade point average on a 4.0 scale in their college work and to have passed all three parts of the Pre-Professional Skills Test (PPST)--writing, reading, and mathematics. Students must also demonstrate competence in communication, listening and computer skills preceding entry into the education program. Several programs also now require additional screening: interviews, faculty recommendations, and portfolios of student work.

Exit standards have been clarified and raised.

State Board of Education regulations require that the performance of each person seeking certification be assessed collaboratively by a higher education supervisor and by a cooperating public school professional, usually a classroom teacher. In addition, certificate seekers must also pass the Content Specialization Test to demonstrate minimum knowledge of the subject to be taught. Significantly, teaching competencies have been specified by the Board of Education and each collegiate teacher education program must assure that its graduates meet these expectations.

Despite these reforms, some people believe that teaching is easy, that people of marginal ability are attracted to the profession, and that those who teach teachers are not demanding. Moreover, others believe that teacher education does not have the quality controls common to the education of other professions: examinations, closely supervised clinical experiences and an established and growing foundation of scientifically verified information on which the profession rests.

Some believe that teacher education, especially those programs that reside in research universities, suffers from an advanced case of "prestige deprivation," maligned by faculty in the arts and sciences and starved by central administrators and state legislators. Until recently, regional public colleges and specifically universities--originally normal schools founded to prepare teachers--have demonstrated less tangible interest in their first mission and have assumed responsibilities such as economic development often thought to be the purpose of myriad other organizations. Teaching itself is denigrated by funding formulas that emphasize and reward other functions carried out by colleges and

universities.

Still others assert that undergraduate education, including that offered to prospective teachers, is incoherent, a loose aggregation of courses offered at faculty convenience, influenced by innumerable competing interests and only incidentally cumulative in effect and aimed at producing an "ideal" teacher.

Despite the continuing discussion, we believe that the educational goals formulated by the Governor, written into statute by the Legislature, endorsed by many citizens of West Virginia, and outlined at the outset of this report should serve as the polestar for our efforts. West Virginians believe that individual and community progress is inextricably linked to school achievement.

Recommendations

1. **Strengthen the clinical component (classroom observations, simulations, tutoring, student teaching) of pre-service teacher education.**

The Task Force believes that this recommendation merits greatest attention and immediate implementation. Consistently, study panels at the state and national levels, a substantial number of West Virginia's teachers-of-the-year, teacher educators, scholars, and recent teacher education graduates agree! Specifically, we recommend that:

- Carefully devised practicum experiences be increased, particularly in the early years of the student's program;
- Interactive audio/video links be established between colleges and public schools;
- Intensified training be provided for carefully selected cooperating teachers and college supervisory faculty who are compensated fairly and evaluated thoroughly;
- Higher education supervising faculty spend more time in public school classrooms; ratios of supervisors-to-students meet National Council for the Accreditation of Teacher Education standards; and funding be sufficient to

support the clinical model (which will be addressed in a later section of this report);

- Short and long-term faculty and administrative exchanges between public schools and higher education be established;

- Computer, video-disk and other multimedia simulations of classroom situations be adopted, adapted, or invented for pre-student teaching;

- The Professional Development School Model, sponsored by West Virginia University and nearby public schools and now undergoing field tests, or a comparable model be implemented in other regions of the state by school-college partners, with designated new funding provided by the Legislature.

Professional development schools are true collaborations between the public schools and teacher training institutions that are designed to serve public school children. They provide a vehicle for higher education faculty to actually teach children in the school, and for public school teachers to teach in higher education. The goals are "to allow all teachers to learn more about teaching" and to discover new, more effective ways of teaching our children.

2. Pre-service teacher education programs should be strengthened in the following areas:

- Human development. Teachers must be able to translate curriculum and their knowledge/experience into teachable episodes at the level of the learner, which usually encompasses a wide developmental range both within and and between age/grade groups. Continuous and in-depth developmental study and application is an essential undergirding for structuring and delivering subject matter.

- Communication skills (writing, speaking, listening, observing, using new communication technologies and creative dramatics).

- Increased emphasis for prospective K-4 teachers on the teaching of reading, writing, and arithmetic and development of appropriate training.

- Screening and remediation for hearing and speaking

impediments of prospective teachers.

- Teaching teachers to determine the worthiness of standardized tests and to analyze, interpret and use data from tests.

Now committed by statute, West Virginia will work to ensure that by the year 2000 her students "equal or exceed national averages" on national tests. Moreover, West Virginia schools and counties can now be placed on probation because of low student achievement on required tests. Failure to remedy can result in State Board of Education takeover of a school system. Consequently, teachers must understand how to do item analysis, devise curriculum based on results, and to influence policy stemming from tests and their results.

3. Colleges and universities should strengthen the liberal arts/general education and subject matter content components of their teacher education programs by:

3.1 Assuring that the liberal arts/general education component is a coherent, related experience rather than a collection of introductory courses in selected academic fields.

The worth of a liberal arts/general education program for teacher education students is predicated upon its ability to promote students' valuing knowledge in a variety of subject matter domains and to contribute to their development as liberally educated persons. Every course in the general education component should be taught to demonstrate that human knowledge is not a disconnected series of specialized subjects but interrelated domains of thought.

3.2 Assuring that programs in content areas are designed and taught to facilitate knowledge of the structure of the field and how it may best be shared with others.

A critical element of a pre-service teacher's professional preparation is the extent to which the student acquires a "strong command" of the discipline that she/he is preparing to teach. We believe that learning to teach a subject is actually the highest and most integrated level of learning. Acquiring an understanding of subject matter adequate for teaching is, therefore, not simply a matter of adding additional content courses to the teacher preparation program or requiring the pre-service teacher to earn a liberal arts degree in the teaching

discipline.

Careful attention must be given to the design and sequence of the content area courses so that the curriculum facilitates the acquisition of both the depth and breadth of knowledge in the discipline needed by those who plan to teach. Pre-service teachers need to know their subjects well and differently from the way in which they are commonly taught. Recent research on subject specific pedagogy suggests that students need to understand the structure of their disciplines well enough to see the implications for teaching.

The amount of course-work required in the discipline and the ways the course-work is organized are important to rigorous, effective content area preparation. This could require a preparation period longer than the traditional four years.

3.3 Assisting pre-service teachers with integrating knowledge of the teaching disciplines with knowledge of how to teach.

Among the various categories of teacher knowledge necessary for effective teaching, we attach special significance to pedagogical content knowledge consisting of those "important and insightful pieces of information about how teaching should best go on" in a given subject area.

Although we advocate increased attention to preparation in the disciplines, we recognize the important of integrating that work with pedagogy:

> One cannot be a good teacher of a subject unless one is a good student of that subject; teaching cannot be content-free. But to be a good teacher, it is not enough to know a subject as well as a student. One must also know its pedagogy. One must know it as a teacher, and not just a student. This is analogous to the difference, in medicine, between being a good student of anatomy and physiology on the one hand, and knowing how to perform surgery on the other. The analytic knowledge of the subject is a necessary element in good surgery, but it is hardly the same thing as surgical skill (The Holmes Group).

Lee Shulman, principal researcher for the National Professional Standards Board, describes pedagogical content knowledge as "that special amalgam of content and pedagogy that is uniquely the province of teachers, their own special form of professional understanding." According to Shulman,

> It (pedagogical content knowledge) represents the blending of content and pedagogy into an understanding

of how particular topics, problems, or issues are organized, represented, and adapted to the diverse interests and abilities of learners, and presented for instruction. Pedagogical content knowledge is the category most likely to distinguish the understanding of the content specialist from that of the teacher.

Recent research suggests that pedagogical content knowledge may be a factor that differentiates beginning teachers who graduate from teacher education programs from those who begin teaching with subject matter preparation alone. Other research indicates that even those who graduate from teacher education programs may experience significant problems in translating content for teaching if they have not been adequately prepared to integrate knowledge of subject matter with knowledge of pedagogy.

3.4 Establishing cooperative/collaborative relationships among all departments that share in the education of teachers within higher education institutions.

Achieving the foregoing recommendations will require the cooperation of all those faculty and administrators who share in the design and delivery of programs that prepare teachers. ***Teacher education is the responsibility of the entire university or college.*** A shared sense of responsibility for teacher education is an important aspect of strengthening the preparation of students in the academic areas they are preparing to teach. Perhaps more difficult to effect: the traditional academic pecking order that relegates faculty in the professional education divisions to second class citizenship must be abandoned. Presidents and chief academic officers must assume direct responsibility for the quality of teacher education programs and of their graduates. Therefore, the Task Force believes that these leaders should support vigorously and publicly the education of teachers, recognize all who create high-quality programs, allocate resources equitably, and work as partners with people associated with the public schools to stimulate continuous improvement.

4. Encourage experimentation by institutions of higher education in the development of teacher education programs. This may include the creating of five-year options for teacher education at some institutions.

Responsibility Two: Streamlining and Simplifying Certification Standards and the Process.

The purpose of teacher certification in West Virginia is to help ensure that only qualified, competent persons are hired to teach in its public schools. Properly designed certification should complement quality control mechanisms that others have implemented to screen prospective teachers. Through certification, the state exercises its constitutional responsibility to provide a "thorough and efficient" system of public schools in which the quality of learning opportunity is viewed as heavily dependent upon the quality of teaching. Certification should facilitate the achievement of educational goals established by the state.

As knowledge needed for successful teaching has become more complex, some attempts have been made to increase control over burgeoning information by narrowing the breadth of knowledge for which one is accountable. In some cases, this has resulted in formation of more narrow certification options; in others, requirements have been increased.

Because some critics assert that certification has "become an end in itself," the Task Force sought information concerning West Virginia certification requirements and procedures. Information was also sought on the feasibility of alternative certification procedures to provide qualified personnel for the State's classrooms.

Examination of current practices in West Virginia colleges and universities reveals that about 10 percent of the certificates granted are awarded to "non-traditional" (typically older women or students who have already achieved a baccalaureate degree) teacher education students. Accommodations are made

to account for existing degrees, life experiences, and single-subject certificates awarded in lieu of requiring two specializations as specified for initial endorsements.

The answer to the efficacy of alternative certification is tentative, at best. Preliminary research results from New Jersey suggest that teachers who enter the profession through the state's alternative certification route do better on the National Teacher Examination and persist longer in their first teaching assignment. Other studies have investigated whether teacher education program graduates are better prepared than those who have had no teacher education. These studies have shown that, on a variety of measures, those who have completed a teacher education program are better prepared to teach.

Clearly, there is a dearth of valid information and there is little evidence to indicate that the states address this question in a systematic way. Nonetheless, the Task Force does believe that advanced course-work and knowledge of subject matter are positively related to teacher performance.

In recent years, the states have actively debated the locus of responsibility for teacher certification. In all but five states, certification is the responsibility of the State Board of Education, which is typically advised on related issues by a standards committee or board. In West Virginia, a 27-member Council on Professional Education (COPE) advises the State Board of Education and its superintendent on teacher education, licensure and certification. Several other states are considering the feasibility of creating autonomous boards to approve the teacher education programs and to certify teachers. ***The Task Force believes that the creation of an autonomous professional standards and licensure board would fragment authority and responsibility in***

teacher education and certification which would be contrary to our charge to streamline.

Recommendations

1. **Endorse, promote and support continuing efforts to apply a philosophy of multi-categorical certification in special education. This principle should be extended to include undergraduate special education programs. Higher education institutions, in cooperation with the State Department of Education and public school representatives, should evaluate current practices as they relate to practicum experiences in special education to determine if they could be more efficiently designed. Finally, the State Department of Education should continue to fund the development of special education distance learning.**

Preparation, certification and supply of special education teachers presents an often bewildering array of dilemmas for public policy makers. Even prolific preparation programs are not equal to turn-over in the field and to projected increases in demand induced by recent federal legislation and rising student enrollments nationally. As many as 40 percent of new special education teachers in some states are provisionally certified, 34 percent in West Virginia. For many West Virginia's teachers, a special education position is a spring-board into other teaching assignments. Change in this domain is the rule: 65 percent of school jurisdictions recently surveyed across the country predicted imminent changes in special education certification policy. Sorting through terminology, philosophies, and preparation practices could overwhelm the lay analyst. Training manuals reveal 181 different job titles; the number of special education fields certified by the states ranges from 4 to 15 (West Virginia has 12); and eight states require the masters degree or a fifth year for initial certification. Having examined the evidence, the Task Force believes that certification can reflect similar personnel functions and commonality of services. Further, some research indicates that learning disabled and educably mentally retarded students make about the same learning gains when instructed by teachers whose certification matches the child's label and when instructed by teachers with certification not matching the pupil's label.

Prior to any changes, State Department of Education officers should consult with NCATE to assure that West Virginia plans are consonant with the "Standards for the Certification of Special Education Personnel," a precondition for NCATE accreditation.

2. Eliminate secondary gifted education certification.

State policy now encourages the creation of Advanced Placement and honors courses, forms of accelerated learning, at the secondary level and consequently, obviates the need for this certification area. Certification of teachers of the elementary gifted should be retained.

3. Continue to investigate a reduction in the number of certification fields.

West Virginia now certifies in 55 fields not including vocational education. At least ten of the certification fields are non-teaching, including administrative. West Virginia now has endorsements in 151 technical/vocational fields. Not satisfied with lack of recognition, several additional subject area constituency groups suggested that the Task Force should endorse certification for their fields. In contrast, the National Professional Teaching Standards Board plans to develop certification in approximately thirty (30) fields organized by stages of student development and subject matter. Similarly, other states such as Virginia certify administrators in considerably fewer fields than present practices in West Virginia.

We believe that the trend toward over-specialization that has contributed to the disintegration of the undergraduate experience in some colleges can be resisted and successfully reversed in the public schools.

4. The State Board of Education should retain responsibility for teacher certification.

The Task Force recognizes the responsibility of the West Virginia Board of Education in consultation with the boards of higher education to promulgate standards for the preparation of education personnel and to issue certificates and other licenses based upon such standards. The Board has demonstrated its willingness to solicit input from the profession and lay citizens in the development and implementation of policies and regulations related to teacher preparation, teacher certification and staff development.

Prior to implementation, proposed policies are reviewed by appropriate professional and lay groups, as well as the Legislative Oversight Committee for Educational Accountability. Also, the Board routinely places its proposed policies on public comment (sixty-day minimum) prior to final action. Comments received during the comment period are logged and reviewed for possible modification to the policy. Finally, as a significant part of professional and public input, the Board has established the West Virginia Council on Professional Education (COPE) to advise the Board on these matters. COPE, which includes a broad representation of teachers, support service personnel, public school administrators, higher education faculty and lay citizens can be an effective voice

in the articulation of Board policy.

5. **Increase the fees required for teacher certification applications (especially fees charged out-of-state candidates) and devote the revenue to hiring adequate staff to handle the workload.**

Responsibility Three: Establishing a Delivery System in Higher Education for the Graduate Level In-Field Salary Classification.

History of the Legislation

In 1989 the West Virginia Legislature enacted legislation which provided for the creation of an in-field master's program for public school professional personnel. This legislation was revised and amended by the 1990 Legislature to provide additional clarification about the definition of what constituted in-field status and in the modification of the extent of course-work that higher education is to provide. The legislation was further revised in the August 1990 Special Legislative Session Senate Bill 8 to include an in-field master's salary classification and to change the effective date of the salary classification from July 1994 to July 1992.

Legislative Provisions Relating To Higher Education

The legislation creating an in-field salary schedule for professional educators has two major purposes:

1) To create a salary incentive for professional educators to complete graduate level work in the content area in which they are assigned.

2) To provide in-field master's level courses (content area of assignment) throughout the eight regional educational service agency areas (RESAs) for teachers.

The section of the law relating to higher education provides (1) that on request for a specific master's degree program, that the appropriate governing board shall provide all of the course-work for a master's degree program that is designated as in-field, (2) that the course-work for such program shall be initiated no later than two years from the date requested and (3) that it shall be provided to

the greatest extent feasible within each RESA area in which the request has been made as follows: (a) via satellite instruction; (b) via public television home instruction; or (c) in a manner prescribed by the governing board. The law further provides that if the governing board fails to initiate the course-work within the above time period, an individual shall be compensated at the in-field salary level regardless of the area of the master's degree.

Formation of the In-Field Master's Committee

The work of the Task Force was aided greatly by a special committee appointed in March 1990 by Dr. James W. Rowley, Chancellor of the University System Board of Trustees in consultation with the chief academic officers of the system's graduate institutions. The Committee included two representatives from each of the graduate colleges (Marshall University, University of West Virginia College of Graduate Studies, and West Virginia University), two representatives from the state college system, two representatives from the state department of education, and one representative from a regional education service agency. Dr. Bruce Flack, Interim Director of Academic Affairs from the Central Office of the State College and University Systems, was asked to chair the committee.

Levels and Areas of Need

The committee sought to identify the areas and levels of need related to in-field master's program. Using data provided by the West Virginia State Department of Education (WVSDE), the committee identified the approximate number of eligible teachers by endorsement area on a county, RESA, and statewide basis. A statewide analysis of employed teachers assigned to specific areas is presented in the table on the following page.

Analysis of Employed Teachers Assigned to Specific Areas By State By Salary Class
1989---1990

Teaching Assignment	*Teachers With A Master's Degree or Above	Teachers Without Master's Degree	Total Number Track Assignment
+Elementary Education	3168	3878	7046
Preschool--Kindergarten	369	419	788
+Special Education (all areas)	1742	1518	3260
+Language Arts/English	814	800	1614
+Social Studies	708	661	1369
++Principal/Asst. Principal	1062	2	1064
+Mathematics	661	737	1398
+General Science	300	439	739
+Physics	65	56	121
+Chemistry	99	80	179
+Physical Education	460	666	1126
++Counselors	459	1	460
+Biology	298	293	591
+Business Education	276	222	498
+Arts	203	258	461
+Home Economics	202	177	379

*Data do not indicate master's level fields. A 1985 WVSDE survey of 200 teachers randomly selected indicated that 45 percent of teachers had a master's degree within the content area of assignment

+1989-90 data; duplicated count

++1988-89 data; unduplicated count.

How Higher Education Can Help Satisfy the In-Field Salary Requirement

A professional educator who has completed requirements for a master's degree may qualify for in-field salary classification by one of the following options:

1) twenty-four (24) semester hours of post-baccalaureate graduate credit, completed within or external to the advanced degree, consistent with a specialization on the Professional Certificate completed at the undergraduate level;

OR

2) a master's degree, completed prior to July 1, 1992 consistent with a specialization on the Professional Certificate completed at the undergraduate level;

OR

3) twelve (12) semester hours of graduate credit, beyond the requirements for a specialization completed at the graduate level, which are consistent with the specialization on the Professional Certificate.

In the second option above, the in-field master's plan indicates master's degrees appropriate to the area of certification. Master's degrees are available in West Virginia that are appropriate to all certification areas. Thus, for all professional educators who complete a recognized master's degree prior to July 1, 1992, which is consistent with their specialization completed at the undergraduate level, the in-field salary supplement shall apply.

For those who have not completed an appropriate master's degree by July 1, 1992, they will, as indicated in the first option, need to complete twenty-four hours of content course-work, completed within or external to a master's degree.

In most degree programs, one or more of the West Virginia graduate institutions offers at least 24 hours of appropriate course credit.

The plan indicates the recognized advanced degrees as they relate to certification areas for those persons completing a master's degree prior to July 1, 1992. It will also indicate recognized content areas as they relate to the certification fields. The list of content areas will assist the State Department of Education in evaluating course-work taken by professional educators who are seeking 24 hours of content courses.

The plan indicates that there are graduate programs in West Virginia appropriate to in-field needs for all certification areas for professional educators who will complete an in-field degree prior to July 1, 1992, and whose certification is at the undergraduate level.

Recommendations

1. **The In-Field program will be phased in over a minimum 4 to 5 year cycle each program period, beginning in 1991-92. A sufficient number of courses would be offered in each program to enable students to complete a degree in four (4) years.**

2. **Six instructional areas will be identified for statewide delivery the first two (2) years. An additional one to three programs will be initiated in the third year. All course-work for the identified programs would be offered in each of the RESA areas. This will enable professional educators to complete 24 credit hours of content courses in the field, and if desired by the student, to complete all of the course-work needed for a master's degree. The fields identified would meet the in-field needs of approximately 70 percent of West Virginia teachers.**

3. **During the fourth and fifth years, additional programs will be made available to areas of the state where there is sufficient demand. Courses for these programs will be offered to the extent that adequate financial resources**

permit.

4. Under guidelines for the In-Field Master's Program, a degree, to be classified as in-field must have 24 content hours. Of the 24 hours at least 50 percent of the course-work must be in the primary content field. A maximum of 25 percent may be in a professionalized course (an applied or methods course which is content specific), and a maximum of 25 percent may be in a related content field. (Example: A general science teacher could take master's level course-work in science. At least 12 of the 24 hours would need to be in science. He could take a maximum of six (6) hours in Science for Teachers, etc. He could also take six(6) hours in mathematics or statistics, which are recognized related areas.)

5. The state's institutions of higher education will share in the delivery of programs statewide. The institutions will cooperate in a coordinated delivery of the graduate courses in the targeted program.

6. Effective statewide delivery of master's level course-work for professional educators will require the use of the resources of the State College System. The courses delivered by the faculty of the institutions in the State College System shall be funded in a manner equivalent to courses delivered by faculty of the institutions within the State University System. State College System faculty members employed to teach master's level courses shall meet the graduate faculty qualifications established by the graduate schools awarding the degrees and shall teach only with approval of the institution where they hold full-time faculty appointment. Institutions in the State College System shall be compensated for the delivery at a rate equivalent to graduate institutions including salary costs and non-salary items of cost such as facilities, equipment, supplies and other current expenses. This applies only where State College System faculty are employed as the teacher of record in courses where student credit hours accrue to the graduate institutions.

7. **In delivering courses statewide, participating institutions will make extensive use of telecommunications. The SATNET and HEITV distance learning projects will be utilized to the extent feasible in the provision of in-field graduate courses for teachers. The traditional model of an on-site instructor will also be employed. In addition, the summer institute format will be used for some offerings during the summer months.**

8. **The curriculum areas for statewide delivery, plus corresponding certification fields in parentheses are as follows:**

1991-92

Humanities	(English, Language Arts, Social Studies)
Social Studies	(Social Studies)
Elementary Education	(Limited Offerings)
Mathematics	(Mathematics)

1992-93

Elementary Education	(Multi-subjects, K-4, K-8, Early Education)
Special Education	(Various special education certifications)
Science	(General Science, Physics, Chemistry, Biology)

1993-94

Up to three (3) programs from areas such as Physical Education, Art, Business Education and Counseling.

1994-95

Graduate course-work in additional areas will be provided to the extent there is sufficient demand and resources permit.

Responsibility Four: Examining the Range of Non-Traditional Approaches to Augment our Teaching Force Including, but not Limited to, Alternative Certification and National Teacher's Exam Testing.

"Albert Einstein wouldn't qualify to teach in this state!" "Well, even if he could, I wouldn't want him teaching my child." And so goes the debate about the appropriate credentials and preparation necessary for entering the public school classrooms to teach. Stories abound concerning people who would have made marvelous teachers had they only taken the requisite professional education courses or had they met West Virginia's certification requirements, believed by many to be more rigorous if not more stifling than those of our sister states. Street talk, however, suggests that West Virginia certification standards are unduly restrictive.

The Task Force has carefully examined West Virginia's present certification requirements, and a broad range of alternative certification programs in use across the country and in West Virginia and has concluded, contrary to conventional wisdom, that sufficient routes are indeed now available to our classrooms. In accord with state law, the West Virginia Board of Education issues not only professional certificates to graduates of traditional teacher education programs but also a variety of temporary licenses to individuals with other types of preparation: permits for full-time and substitute employment, an internship license, and a temporary certificate. The temporary license enables a county board of education "to employ an individual whose competence may not have been verified."

West Virginia is like most other states in granting an "emergency"

certification to allow otherwise unqualified persons to enter the classroom. Reports indicate that approximately 17 percent of the nation's teachers are misassigned to teach subjects they are unprepared to teach, predictably most in math and science, and in rural or isolated schools. The Task Force was pleased to find that in West Virginia between 1985 and 1990, in the general education fields, including math and science, where data are available, and in special education between 1987 and 1990, there has been a decrease in emergency certificates. However, the Task Force believes that when higher standards conflict with teacher shortages, emergency certification may be expanded beyond reasonable limits to provide unprepared individuals for classrooms.

In addition to the options described, Senate Bill One provides for the creation of alternative certification programs fashioned in the likeness of a similar New Jersey program that has received recent attention. County schools, school districts, consortia of schools or regional educational service agencies, in joint sponsorship with West Virginia institutions of higher education where possible, will administer these programs.

West Virginia is not a neophyte in the field of alternative certification, for one program of recent vintage has itself received broad acclaim. Instituted cooperatively by the University of West Virginia College of Graduate Studies, West Virginia Institute of Technology and West Virginia State College, the program prepares "second-career" adults (several were displaced industry employees) to teach science and mathematics in secondary and middle schools. When surveyed, graduates of the program indicated that their professional education courses were most helpful and that their content knowledge needed some refreshment. Provision of academic and field preparation was considered

essential to the program.

New Jersey's five year experience with alternative certification may foretell the next several years in West Virginia and provide instruction for policy making. An early study of the program, which was begun in 1985, revealed that the first candidates had higher scores on The National Teachers Examination than graduates of teacher education programs and that 20 percent were minority candidates. The report did indicate that the required 200 hours of instruction were excessive for individuals who were in their first year of teaching. Many candidates viewed the required course-work as impractical and of low quality. Despite high expenses for supervision of candidates, administrators agreed that provisional teachers were more able than those whom they typically recruit and generally gave the overall program high marks.

A more recent analysis of the New Jersey program indicates that it is attracting some marginal candidates who were unable to meet the academic requirements of traditional programs (for example, an estimated 30 percent did not have the required 2.5 grade point average to enter teacher education). Notably, talented minority students in the program had been attracted by generous fellowships. Critics claim that no provision has been made for systematic evaluations of teachers who have been alternatively certified. Clearly, the program has created competition, sometimes rancorous, between the State Department of Education and colleges of teacher education---circumstances that the Task Force is confident can be avoided in West Virginia.

Another means of alternatively certifying teachers is the Master of Arts in Teaching program, fashionable in the 1960's and now underway again at Marshall University where 90 candidates are enrolled. The M.A.T. provides

liberal arts graduates the opportunity to take requisite courses both in professional education and in a content field and to complete student teaching. The professional education component of the program closely corresponds to undergraduate work offered in baccalaureate level higher education programs throughout West Virginia. However, nine hours of graduate work in a content field are required.

Although promising in many respects, alternative certification programs are unlikely in the short run to produce a substantial supply of teachers. Thirty-three states now have these programs; one-third of the states only allow schools to hire such teachers when they cannot find traditionally certified teachers. Moreover, the National Center for Education Information reports that about 12,000 of over one million teachers hired since 1985 were alternatively certified.

Recommendations

1. **Provide Master of Arts in Teaching options statewide.**

2. **Initiate an on-going study to evaluate the relative effectiveness of teachers prepared by the variety of teacher education programs and certification options available in West Virginia.**

3. **The professional education component of the alternative certification program should be spread over a minimum of fifteen months, with minimal formal course-work during the first semester of teaching.**

4. **Admission to an alternative certification program should require passing scores on the PPST and a 2.5 grade point average on a 4.0 scale in undergraduate work prerequisites; certification should include passing scores on the appropriate Content Specialization Test.**

5. **Alternative certification provided by Senate Bill One should be planned jointly as a partnership by higher education and public school representatives.**

Responsibility Five: Surveying the Need for Teachers by Identifying Possible Areas of Teacher Shortage and Oversupply Over the Next Ten Years.

Matching the productivity of teacher education programs with the projected demand and need for qualified teachers can be at once an exercise in philosophy, economics, strategic planning, educational engineering and, at the most elementary level, mathematics: philosophy, because we ask questions about what should we as West Virginians attempt to accomplish through public education; economics, because we consider the impact of various salary structures, alternative teaching technologies and interstate and inter-industry competition for teachers; strategic planning, because we consider the state's global competitive position and goals, how best they can be achieved and the implications of success; educational engineering, because research has aided us in understanding the cause and effect relationships in this complex field; and mathematics, because we can build simple models to project demand on the basis of past experience or on the basis of assumed new behavior. The notion of demand itself in education can be nettlesome because it may very well shift to accommodate anticipated supply: schools choose not to offer calculus, physics or foreign language because they believe that competent teachers cannot be found.

Supply and Demand: The Nation

The national marketplace for teachers has changed dramatically since 1930, affected variously by depression, the military draft and emerging opportunities for women and minorities. The attractiveness of teaching declined steadily from 1973 when 24 percent of college undergraduates were enrolled in teacher education programs to 1983 when only 4.5 percent reported majoring in

the field. By 1988, a modest resurgence of interest in teaching inflated the figure to 6 percent. Notably, West Virginia students have been typically more interested in teaching than their peers nationally. In 1988, 9 percent of our state's entering college students reported education as their intended major.

Future teacher shortages are predicted at the national level and will be especially severe in some states that currently recruit graduates of our state colleges and universities. Over the next seven years, 1.1 million new teachers will be needed, or approximately 125,000 each year. The U.S. Department of Education projects annual demand for elementary teachers to be stable throughout the period, demand for secondary teachers to increase rapidly until 1995 and then to decline modestly. Available projections indicate that approximately 100,000 new teachers will graduate each year from the nation's teacher education programs and slightly more than one-half will actually enter teaching. Having steadily fallen since 1978, teacher turnover--annually 4.9 percent for elementary teachers, 5.6 percent for secondary teachers--accounts for the lion's share of the pressure for new hiring. In contrast, teacher turnover in West Virginia has changed substantially during the past four years from 5.6 percent to 9.2 percent to a high of 12.2 percent and then down in 1990-91 to 5.4 percent.

Supply and Demand: The State

The overall need for teachers in West Virginia over the next decade will vary with the state's public policy objectives and expected school enrollment. Achievement of the state's six educational goals requires additional effort. For example, Harold Hodgkinson, a nationally recognized expert on demographics

and educational policy, has asserted that West Virginia's ability to retain its students in school at a rate above the national average is directly related to its investment in a relatively low student-teacher ratio. Recent successes in improving student achievement demonstrate that lower student-teacher ratios, when combined with other school reform initiatives such as teacher retraining, may indeed have a healthy impact. The Advanced Placement and the Reading Recovery programs have shown that focused objectives, teacher commitment and special preparation, and individualized attention to students can raise scores on tests that educators and the public alike deem worthy. Therefore, the Task Force believes that the twin goals of drop-out prevention and test score improvement (variables that are usually inversely related; i.e. improvement on one variable is purchased by a decline in the other) will require a substantial effort to maintain relatively low student-teacher ratios.

Projections of enrollment by grade and by county have been examined by the Task Force. These projections, however, are based on an assumption that the West Virginia economy will continue the slide which characterized most of the 1980's and stimulated out-migration. Recent reports reveal recovery and relative robustness in the state's economy and now the Governor's Office of Community and Industrial Development has targeted the addition of 10,000 jobs annually through the year 2000.

Based on available enrollment projections and a continuation of recent student-teacher ratios, West Virginia's teaching force could decline from 21,807 to 20,821 over the next seven years. However, typical annual turnover alone requires approximately 1,000-1,200 new teachers each year . In 1988-89 there were 1,184 newly hired teachers; 1,848 in 1989-90 because of the need to

replace an unusually large number of early retirees. Still, last year 1,531 people taught without professional certificates. Without continuing salary increases, the rate of turnover and the exit of new graduates from the state will probably escalate as a result of more aggressive recruitment practices of states that currently attract West Virginia teachers. Almost 80 percent of West Virginia teachers who leave their positions in the state go to teaching jobs outside of West Virginia. Teachers prefer to teach.

Several factors already mentioned, especially federal and state policies and goals, may induce greater demand for teachers than projections suggest:

- *Reduction in the drop-out rate during grades 9 - 12.*
- *Meeting the Governor's target for new jobs and a consequent reversal in population decline.*
- *Meeting the need for teachers of the preschool handicapped anticipated by federal legislation.*
- *Meeting the need for more teachers in the Headstart Program resulting from increasing the number of eligible students who are actually served.*
- *Meeting the need for specialists in emerging fields such as technology, foreign language, laboratory science and math.*
- *Providing classes required by the new college admission standards.*

The National Center for Educational Statistics reports that newly hired teachers are usually: experienced teachers on leave or in other occupations, substitute teachers, new graduates of teacher education programs and individuals holding alternate certificates. Over-estimates of shortages generally occur when only one of these sources of supply is used for analysis.

In recent years, West Virginia higher education programs have graduated approximately 1,400 to 1,500 individuals prepared for their first teaching position (and 400-500 more with advanced degrees). Interviews with college placement officials and teacher educators reveal that many of these graduates, especially those who have studied at the two state universities and the private colleges, will find employment outside of West Virginia. The out-migration of teacher education graduates is offset partially by the import of teachers trained in other states, representing about 20 percent of our current teaching force. Graduates of the regional state colleges ordinarily seek employment near their colleges and often accept the role of substitute teacher until invited to take a full-time teaching position. Although unevenly distributed over the counties, the number of substitutes as a percentage of total teachers in a county ranges as high as 21 percent. Some are now fully qualified to teach. ***The data indicate that the present array of undergraduate teacher education programs is adequate to meet anticipated demand for new hires.***

Although present teacher education programs may be capable of producing the total number of teachers required over the next decade, shortages of particular types of teachers are quite possible. Shortfalls are expected in:

- *Preschool handicapped*
- *Secondary mathematics*
- *Laboratory sciences*
- *Foreign languages*
- *Computer science*
- *K-4 developmental (this need may be met by retraining)*
- *Speech pathology and audiology*
- *Elementary counseling*

Specific Problems

Of special concern to the Task Force is the low number of African-Americans who complete teacher education programs at West Virginia colleges and universities: 18 (or 1.3 percent) in 1988. The challenge of completion may be heightened for these few because of the paucity of Black faculty in West Virginia teacher education: only four full-time in 1988 with reports of some additions since that time.

The uneven geographic distribution of teachers with advanced credentials (Master's) is further cause for concern. A substantial area of the state (25 percent of the counties) has less than 40 percent of its teachers at the master's level and above, while those counties with higher percentages of master's level and above teachers cluster around the home campuses of our two public universities and along the Ohio River (Map 1). This map supports the suggestion that West Virginia's geographical disparities regarding teachers with master's level training may in large measure stem from the unique evolution of our publicly supported colleges. Alone among southern states in this form of organization, West Virginia's normal schools have not been encouraged by public policy to serve their graduates after they commence their first teaching assignment--a practice contrary to expectations inherent in the national teacher education reform movement.

Recruitment and retention of faculty for teacher education programs uniformly frustrates deans and college presidents across the state. Experienced

public school teachers regularly inquire about the possibility of teaching at the college level only to learn that they would probably have to absorb a pay cut. Frequently, college faculty leave to teach or to administer in the public schools. The problem is exacerbated when institutions attempt to recruit in the national marketplace. The dilemma is best illustrated by the following comparison of the salaries of West Virginia's state college teacher education faculty and their counterparts in institutions belonging to the American Association of State Colleges and Universities which collectively educate more than one-half of the nation's teachers.

****

Table 2

Average Salaries of Teacher
Education Faculty in West Virginia
and in Member Institutions of the
American Association of State Colleges and Universities

	Professor	Associate Professor	Assistant Professor	Instructor
AASCU	$47,250	$38,464	$30,975	$23,883
West Virginia	$34,497	$29,565	$22,920	$20,686

****

Although salary differences exist between institutions inside and outside West Virginia, teacher educators in undergraduate programs in the state are compensated according to the type of institution in which they serve. Teacher educators in universities are paid more than teacher educators in state colleges. While undergraduate teacher education remains essentially a local program

(students choosing an institution nearest home and upon graduation returning home to teach), support for teacher education faculty is not equitably distributed to assure that prospective teachers receive the same high quality instruction regardless of where they live.

Finally the current and anticipated supply of certified special education teachers falls considerably short of demand. Table 3 reveals the deficit and the extent to which it spreads across the state.

Table 3

1st Class Permits Issued in Special Education (1989/1990)

Compared with Number of Graduates of WV Education Programs

WV Graduates	Certificates Employees ****	Number Permits	Discipline	Trend for Number Permits	Counties issuing permits
147	550 438	243	Behavioral Disorders	Down	41
N/A	55 72	18	Hearing Impaired	Level	16
137 (Mental Retardation)	2193 1112	219	Mentally Impaired (Mild/Moderate)	Down (3 Yrs)	42
10	96 45	5	Physically Handicapped	Level	5
190	1567 1298	345	Specific Learning Disability	Down	48
10	42 62	32	Pre-School Handicapped	Level	20
N/A	31 29	5	Visually Impaired	Level	4
58	474 383	76	Gifted	Down	34
12	11 23	6	Severe and Profoundly Handicapped	Level	6
30	374 410	62	Speech/Language Pathology	Level	24
17	112 37	8	School Psychology	Level	6
611	5505 3909	1019		Down	

****West Virginia number of employees holding certificates and # of employees assigned.

Recommendations

1. **The Governor should launch an aggressive statewide campaign to publicize West Virginia's need for capable teachers and the availability of the Underwood-Smith scholarships.**

   - *The Underwood-Smith scholarship program funding should be increased by $200,000 per year over the next three years and a clearinghouse created to assist recipients in finding employment in West Virginia.*

   - *One specific objective of the Governor's campaign would be recruitment of 150 minority students per year into teacher education programs and their retention to graduation equal to the national average.*

   - *The designation by public institutions of higher education of two tuition remission scholarships for minority students enrolling in teacher education programs.*

   - *Create in conjunction with the Governor's Youth Program a summer Teacher Corps to give scholarship recipients and others practical teaching experience.*

2. **The boards of higher education should require the public institutions of higher education to develop a comprehensive data collection system to follow-up teacher education graduates to complement the State Department of Education's annual supply and demand study, and to provide projections of the future requirements for teachers.**

3. **The Legislature should establish a teaching fellowship program to enlarge the number of minority faculty in teacher education at West Virginia's public institutions of higher education.**

4. **Retraining should be provided to teachers who lose their positions when reductions-in-force occur.**

5. **The two boards of higher education and the State Board of Education should examine the certification areas of individual public institutions to determine**

whether they are meeting a significant demand with programs of sufficient quality.

Shrinking resources for higher education over the past decade have arrested program proliferation, eliminated marginal degree programs and prompted inter-institutional cooperative efforts to share faculty, facilities, and equipment to meet emerging educational needs on a regional or even statewide basis. West Virginia public higher education serves students more efficiently (cost to educate a student) than any other system of institutions under the aegis of the Southern Regional Education Board.

Currently, the boards of higher education are working under legislative mandate to focus and to clarify institutional missions and to continue the periodic review of academic programs in consultation with presidents and institutional boards' of advisors, and with the statewide advisory councils of faculty, students and classified employees---a review process that will involve hundreds of West Virginians. Program reviews should include systematic comparisons of similar programs.

Responsibility Six: Examining the Range of Possibilities for Using Technologies Such as Distance Learning and Computers to Augment Traditional Educational Delivery Systems.

New information technologies are touted as the "most valuable teachers' aides ever invented." Computers effectively tutor students in preparation for objective tests. Teamed with interactive video, computers also can simulate laboratories, games, and decision situations. Satellite links allow teachers to bring people from the far side of the globe into their classrooms. The capability for information storage, retrieval, and manipulation is almost unlimited. Possibilities seem constrained only by imagination and financial resources.

Optimism is tempered by historical perspective reminding us that during the past half-century other widely heralded learning aides--radio, television, audio and video recorders and overhead projectors--have not fulfilled their promise. In the early 1960's, efforts to "teacher proof" the schools resulted in the development of programmed learning and teaching machines, neither of which find much support these days. Looming large is the belief, articulated in a report to the National Governors' Association, that "if teacher quality problems are not solved, education will not get better no matter how many computers or films are purchased."

Aware of opportunities in this new field, the Governor's Committee on Education issued a visionary statement on "Technology and Learning" in its August 1990 report. The statement merits revisiting, for it provided a point of departure by discussion of the Task Force, which was intent on endorsing the best ideas in the report, challenging those that seemed amiss and extending the

list of recommendations if necessary. The report asserted that:

- Many teachers are not comfortable with Computer Aided Instruction (CAI) or with computers.
- Many administrators and teachers are unaware of the benefits of new learning technologies or are over-aware of the difficulties of changing their management techniques.
- Investments in new technologies are not a high priority for many teachers and administrators.
- School districts do not know how computers and computer software programs would fit into the state curriculum.
- Schools lack the money and teachers lack the time to invest in the "R and D" needed to reorganize classrooms to take advantage of new approaches.
- Technology must be implemented building-by-building.

The Governor's Committee recommended that West Virginia:

1. *Create a quasi- public foundation to coordinate the application of new technologies to public education.*

2. *Use technology to improve efficiency and productivity in educational administration.*

3. *Broaden curricula by promoting distance learning.*

4. *Use technology to improve teaching and learning.*

5. *Use technology to promote school restructuring.*

6. *Create a competitive learning technology industry.*

Although inspired by this grand vision, the Task Force sought to develop a set of fundamental principles that would guide its deliberations and inform its judgments. These unelaborated principles include:

- Learning objectives should precede the choice of alternative technologies.
- Teachers should be the masters of learning technologies.
- Generally, worthy teachers and their work will be

strengthened not supplanted by technology.

- The new technologies are simply a means for humans to communicate with one another. Regardless of the distance spanned, the most important consideration is the quality of the message sent and the understanding of the signals received.
- Maximum healthy competition should be encouraged among technology providers.
- Adoption of the new technologies will require substantial investment. Technology is an add-on rather than a substitution cost.
- Student access to learning technologies should not be contingent on the financial ability of either their parents or their school districts.
- The characteristics of individual technologies (costs including maintenance, energy requirements, versatility, speed, portability, operating and space requirements, expected life, and the number of human senses simultaneously engaged) are critical to consider in their selection.
- Existing lower cost technologies such as the telephone are under-utilized for formal teaching and learning purposes.
- New configurations of old technologies (radios on school buses, audio cassettes in cars, class assignments in newspapers, etc.) may enhance teaching and learning.
- Without intervention, the spread of technology will follow a predictable diffusion pattern: the rich will adopt before the poor, large schools before small, urban before rural, and schools with cosmopolitan and professionally active leaders before schools with locally oriented and less active leaders.
- Few ironclad conclusions have been reached regarding the new technologies and learning. Hypothesizing that the new technologies may enhance the learning of some students in some subjects, carefully crafted experimentation and rigorous evaluation should be encouraged.
- It's a brave new world that teachers should learn to relax and enjoy. Many of their students already do! Here is an opportunity for imagination and enterprise to reign. Good technology is usually transparent and easy to use.

The Need for Teacher Training

Numerous studies conducted over the past decade cite the lack of teacher training in the use of technologies as a barrier to development in education. A report by the National Governors' Association partially explains teachers' attitudes toward computers:

> Micro-computers were introduced into a profession that was not trained in their use. With computers coming into the schools through grass-roots movements, training needs were initially not organized in a systematic way. Tutoring by friends, by students, by colleagues, or by sales representatives was a common source of competence.

Consequently, few teachers use the computer in their teaching. Nonetheless, teachers who provided testimony to the Task Force expressed enthusiasm and an eagerness to learn about the new technologies and their applications.

Increasingly, however, the states are beginning to provide teachers training in the use of computers. More than one- half of the states encouraged pre- or in-service training in the educational uses of computers. California has offered support to teachers and to teacher educators through a system of Teacher Education Computer Centers. Needs are met through a combination of university extension services, county computer coordinators, private universities, and community colleges.

Colleges in West Virginia are not very likely to invest significantly in learning technology other than computers if current financial conditions prevail. State appropriations no longer even equal the personnel expenses at most institutions and funds generated by the Higher Education Resource Fee, originally intended to the enrich the campus learning

environment, including the provision of education equipment, is now largely devoted to utilities and other support functions. Without additional earmarked funds for colleges to purchase the new technologies, future teachers will continue to get on-on-the-job training and then only if fortunate enough to teach in a district that is technology rich.

The state should find ways to encourage teacher education programs to provide pre-service training in the use of technology and to integrate such preparation in existing courses.

Recommendations:

- **West Virginia, in partnership with the private sector, should continue to invest in communications infrastructure, the highways of the future.**

- **Each teacher education program, RESA and county should have a trained "technology coordinator."**

- **All teacher education programs should develop curricula designed to produce technologically proficient beginning teachers, enlightened to choose and prepared to use the most effective tools available at reasonable cost.**

- **State contracts should require vendors of new computerized learning systems to provide hardware, software, and faculty training to teacher education programs.**

- **The Legislature should provide support for technology acquisition to teacher education programs based on the number of teacher education graduates the previous year. (See recommendation in Responsibility Ten)**

- **The State Department of Education should provide systematic evaluation of learning software.**

- **The Legislature should provide sufficient funding to the Curriculum Technology Resources Center so that it might encourage the development of software related**

not only to state-mandated learning objectives but also to higher order thinking skills. Several task-specific teams that include teachers, content experts, learning psychologists, and technology specialists should be commissioned to do the work.

- The Legislature should commission a study to determine the types and costs of new professionals that are required to build a statewide system of technology-assisted instruction.

Responsibility Seven: Examining and Developing Retraining and Professional Development Activities for Experienced Teachers.

The education of teachers in not completed by obtaining a baccalaureate or master's degree. The education of teachers is a career-long task shaped by an understanding of the teacher's personal and professional stages of development. It is not simply a matter of obtaining an appropriate degree from an approved program at an institution of higher education. The Task Force recognizes staff development as a continuous developmental process that consists of recognizable stages. In the case of teachers, these developmental stages should be described in order as: (1) novice; (2) advanced beginner; (3) competent teacher; (4) proficient teacher; and (5) expert teacher.

The purpose of a well designed staff development program for teachers is to facilitate student learning by assuring that teachers acquire the developmental lessons of each stage of the process. By providing appropriate support and assistance created to meet individual and common staff needs, these programs help teachers to progress from a dependence on rules learned through college training to a reliance on mature, informed professional judgment.

This view of staff development applies as well to higher education faculty, who serve as trainers and role models for prospective public school teachers. Unfortunately, programs to provide support for the goal of having higher education faculty become expert teachers have seldom been established.

The Task Force believes that with State Board of Education Policy 5500 (Staff Development for Public School Personnel in West Virginia) in place, with counties developing beginning teacher programs as mandated by the state and

with the Center for Professional Development in its formative stages, West Virginia currently has a unique opportunity to establish a model professional development program for both public school personnel and higher education faculty.

Recommendations:

1. **The Center for Professional Development should:**

   - **In collaboration with public school officials and representatives of higher education, develop programs to prepare teachers for responsibilities resulting from the passage of Senate Bill One.**

Part of this responsibility is already given to the Center for Professional Development through the Developmental Training Project to train K-4 teachers in developmental instruction. The Task Force received testimony from members of the Benedum Project at West Virginia University that site-based decision making, a responsibility of the new local school improvement councils and faculty senates established in Senate Bill One, requires skills and understanding not typically addressed in teacher preparation programs.

   - **Develop a grants program to stimulate local continuing education initiatives and collaborate with the legislature to develop a plan to make individual professional development activities such as conferences and continuing education seminars acceptable for renewal and/or salary advancements.**

The current system of continuing education has created many examples of excellent professional development projects. These projects deserve encouragement and on-going support, and should not become neglected through concentration on other state sponsored initiatives for professional development.

   - **Create a teaching assistance program modeled after the Danforth Center for Teaching and Learning at Harvard, or a comparable model, as part of a comprehensive program designed in cooperation with teacher education faculty**

to develop and support continuing education for teacher educators.

A commitment to effective teaching is a life-long commitment to learning and continuous renewal and development. We have recognized this commitment and provided support (e.g. teacher academies, continuing education/staff development, in-field master's program, etc.) for the K-12 educator. We have not provided similar support for higher education faculty.

A comprehensive reform program must include a commitment for the ongoing support and development of teaching in higher education. To address this need, the Task Force is recommending the development of a Center for Teaching and Learning modeled after the Danforth Center at Harvard University (or another applicable model). The provision of such a center is critical as higher education faculty strive to model the teaching techniques and behavior we need to develop in our K-12 teachers.

Higher education faculty could avail themselves of the Center's services voluntarily or upon referral by deans, division or departmental chairs. Services of the Center might include classroom observation and videotaping, orientation and workshops, course consultation, training of mentor faculty, practices of "micro-teaching" sessions, library and other resources, networking among faculty who wish to improve teaching skills and evaluation.

- **Serve as a clearinghouse for persons/groups seeking resources to deliver staff development activities.**

- **Become a source of research on teacher training and best practices, and serve as a clearinghouse to persons/groups seeking related information.**

2. **The State Department of Education should develop stream-lined programs for experienced teachers who wish to add an endorsement in a new content field or in a different developmental level.**

Responsibility Eight: Examining the Structure and Governance of the State Education System as Related to Teacher Education.

The Task Force believes that the adoption of common educational goals for the state provides a unique opportunity to foster and encourage deliberate and unprecedented cooperation in the life-long preparation of teachers.

There are countless examples of productive cooperative relationships at the local and regional levels within this state among the personnel involved in public schools and higher education. These relationships exist at both the in-service level of teacher preparation and in the professional development of teachers who are certified and employed. These relationships have existed in various forms over the years, and they should be continued and expanded.

Drawing on the broad experience of others who managed successful school-college projects, Gene Maeroff proffered the following advice in a publication of the Carnegie Foundation for the Advancement of Teaching:

1. *Effective school-college collaboration requires educators at both levels to agree that they have common problems.*

2. *Collaborators must view one another as equals, or as full partners.*

3. *Cooperative projects must be sharply focused.*

4. *All who participate in successful projects must get recognition and reward when appropriate.*

5. *Cooperative efforts should "focus on action-not machinery."*

These fundamentals have been affirmed across West Virginia, recently and notably in the introduction of the Advanced Placement courses, in concerted

and sustained efforts to encourage more West Virginians to attend college, in teachers' and principals' forums and academies, and in the experimentation with "professional development schools."

Recommendations:

1. **The boards of higher education and the State Board of Education should create joint committees on college attendance and academic standards, teacher preparation and certification, and governance and professional development. The three boards should meet at least one time each year. The boards should encourage their chief executive officers to attend the meetings of the state level education boards on which they serve in an ex-officio capacity.**

2. **Unique collaborative ventures between higher education and the public schools should be strengthened or established. Possibilities include:**

   - Creation of professional development centers or teacher education centers within each of the RESAs
   - Joint faculty and administrative appointments between colleges, universities and school systems
   - Inclusion of higher education representatives on the RESA boards of directors
   - Inclusion of public school/RESA representatives on the State Board of Trustees and the Board of Directors
   - Seeking private and public funding for "academic alliances" that bring together public school and higher education teachers within their academic disciplines to consider ways to improve teaching at both levels.

3. **The Teacher Education Advisory Committee (TEAC) and the Council on Professional Education (COPE) should be routinely consulted concerning policy development and changes.**

Responsibility Nine: Examining the Range of Approaches to Assessment and Accountability for Teacher Preparation Programs.

> No higher education specialty approaches education in the degree of influence exerted by outside agencies. (John Goodlad, 1990)

Economical forms of assessment and publication of results can improve teacher education. Despite their acceptance of the long and rich history of citizen control of the public schools, many teacher educators now believe that they are over-regulated and often whip-sawed by conflicting rules that leave them bewildered if not angry. Each level of a teacher education program undergoes multiple, often overlapping and therefore inefficient assessments:

1. Teacher education programs by the State Board of Education, the boards of higher education, national learned societies, NCATE, North Central Association of Schools and Colleges, institutional boards of trustees and advisors, EPPAC, TEAC and internal reviews.

2. Students in teacher education by ACT, PPST, CST, grades, interviews at various stages, portfolios, and student teaching.

3. Faculty in teacher education by students, peers, division chairs and deans, presidents, teachers for whom they provide in-service training, publication panels and parents.

Compliance with the demands of this array of assessments staggers even herculean teacher educators who finish one report to an external agency only to find another and another. Some assessments focus on processes, some on results, and some on the nature of the teacher educators themselves. Attempts to assure that assessments are complementary have generally fallen short because most reviewing agencies are inadequately staffed and few pool their scarce

human resources in a satisfactory way. Some believe that reviews of teacher education programs also tend to be uneven because of the disorderly proliferation of evaluation criteria and the lack of widely understood professional consensus on key quality issues. Too often personal preferences and anecdotal information rather than systematically gathered comparative data inform program review judgments. The following recommendations reflect the Task Force's intent to create an efficient and effective system of assessment to promote improvement of teacher education.

Recommendations:

1. **Combine the teacher education program review processes now conducted by the State Department of Education and the higher education governing boards.**

2. **The State Board of Education should create two review tracks for professional education, one for NCATE approved programs and one for programs not approved by NCATE. The State Board of Education will accept NCATE accreditation as meeting the requirements for state approval.**

3. **The state level education boards should monitor the NCATE accreditation process and its impact on the state and on individual institutions. Alternative accrediting agencies should be considered as a part of the review and the results of the review should be reported to the Council on Post-secondary Accreditation, NCATE, and appropriate West Virginians.**

4. **Teacher educators should continue to monitor the work of the National Professional Teachers Standards Board to determine the appropriateness of the assessment methodology it is developing and the alternative uses of the certificates it will issue to experienced teachers.**

5. **The PPST and CST testing programs should be periodically reviewed by testing experts and a panel of West Virginia educators, with consideration**

being given to alternative testing programs and exemption from the PPST for students with sufficiently high scores on the ACT.

6. Public school principals should be surveyed confidentially and asked to assess the performance of recent graduates of West Virginia's teacher education programs

Responsibility Ten: Analyzing the Fiscal Basis for Teacher Education in West Virginia and Establishing the Cost of Each of the Recommendations of the Task Force.

West Virginia has skimped on the education of her teachers. Consequently, many of the state's teacher education programs are now having serious difficulties in achieving or sustaining national accreditation. Faculty in teacher education are difficult to attract and to retain; new teaching technologies are unlikely to find their way onto our campuses; publicly supported experimentation with new teaching strategies is rare and research on teaching and learning in West Virginia is virtually non-existent.

Surveys of public opinion in West Virginia indicate that taxpayers are indeed willing to support improvements in education, and a recent Gallup poll reports that 81 percent of the American voters would support tax increases to improve education. The support, however, is qualified. People expect genuine improvement, tangible results in exchange for more resources. Therefore, the intent of this report is to recommend policies and activities that will improve student achievement and the intent of this section is to estimate the attendant costs of the major initiatives.

Recommendations:

1. **The Legislature should appropriate $800 to West Virginia institutions of higher education for each teacher education graduate who finished during the previous fiscal year. Cooperating teachers would be paid $400 each from this revenue. (A similar program is now administered by the State of Ohio Board of Education.)**

The clinical model of professional education requires more financial

support than other methods of classroom instruction. Moreover, teaching itself is becoming more technology-related. Costs usually not associated with typical courses include program coordination (including student placement, travel and communications), faculty supervision (no more than 18 student teachers per FTE faculty member), support services, materials, simulation and "micro-teaching," and training and payments to cooperating teachers. The acquisition of teaching technology would be possible by use of these funds. (Estimated costs for 1991-92: $1.44 million.)

2. **The In-Field master's programs should be appropriated $200,000 annually per program.**

The proposed plan projects twelve hours of a graduate program each year. The cost estimates include instructional, communication, and ancillary services calculated at off-campus rates. Satellite courses require support for course production, uplink fees, facilitators at each site, and teaching assistants for large-enrollment courses. (Estimated costs for 1991-92: $500,000).

3. **An appropriation of $1400 per candidate for alternative certification should be provided to the administering agency. If state funds are unavailable, then candidates will bear the cost.**

   (Estimated Cost for 1991-92: $280,000)

4. **Startup funds should be provided to teacher education programs to extend the Professional Development Schools concept to the seven remaining RESA regions of the state.**

   (Estimated Cost for 1991-92: $700,000)

5. **Provide support to the Center for Professional Development to begin a cooperative research, development, and dissemination effort focused on teachers, teaching, and learning.**

   (Estimated Cost for 1991-92: $100,000)

6. **Increase support for the Underwood-Smith Scholarship.**

   (Estimated addition to the 1991-92 budget: $200,000)

7. **The Summer Teacher Corps would be funded by federal and state work-study funds and by federal job training funds.**

8. **West Virginia's media and advertising industry should be asked to design and to conduct the campaign to attract capable teachers as a public service.**

9. **Provide support for the minority teacher education fellowship program.**

   (Estimated costs for 1991-92: $90,000)

10. **Provide designated support to the State Board of Education for the Curriculum Technology Resources Center in order to create multi-disciplinary teams (two the first year) that would develop software related to high priority learning objectives.**

    (Estimated costs for 1991-92: $50,000)

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Characteristics of the Ideal Teacher

- Competence in subject matter knowledge
- Adept at human relations
- Caring
- Exhibits good communication skills
- Understands student needs and abilities
- In-depth knowledge of pedagogy and subject integration, including teaching methods and child development
- Classroom management skills
- Courage
- Understands the social milieu of public education
- Thinks analytically and critically, habitually
- Models desirable behavior
- Good manager
- Provides a safe secure, and disciplined atmosphere in the classroom
- Has common sense
- Knowledgeable of other support services in the community
- Utilizes networking skills
- Ethical
- High level of personal development/shows "joy of living"
- Not rule driven
- Risk taker
- Creative

- High self esteem/self concept
- Altruistic
- Capable of making judgments about student knowledge
- Good decision maker
- Manager of the change process
- Leadership skills
- Has a sense of purpose
- Honest
- Knowledge of technology
- Knowledge of assessment
- Sense of humor about circumstances and self
- Ability to create analogies
- Knowledge about how to assist families
- Ability to deal with shifting goals and the ambiguity inherent in the public schools
- Stays abreast of changing times
- Global perspective about education and career orientation of students
- Salesmanship
- Respect for students and their point of view
- Physical stamina

Task Force Projects

A review of the retention of teachers in West Virginia who have received Advanced Placement training.

A review of the course offerings in West Virginia high schools as of September 1990.

A projection of teacher demand in West Virginia by grade and by county through 1997 based on enrollment projections and pupil teacher ratios provided by the West Virginia State Department of Education.

A review of course offerings in teacher preparation programs in the institutions of higher education in West Virginia.

A phone survey of superintendents of schools in West Virginia (or their representatives) on the supply and demand of teachers.

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